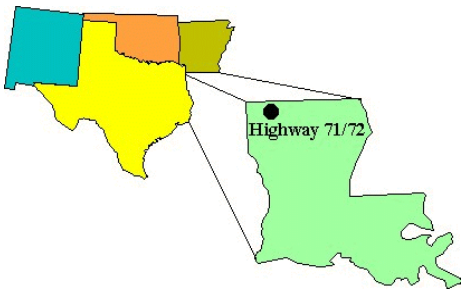
HIGHWAY 71/72 REFINERY SITE
Bossier Parish, Louisiana

EPA Region 6
EPA ID#: LAD981054075
State Congressional District: 4
Fact Sheet Updated: August 2003



SITE DESCRIPTION

Location: The Highway 71/72 Refinery Site is located in downtown Bossier City, Louisiana, about 2 miles east of downtown Shreveport and 1,800 feet north of the Red River. The former refinery site consisted of about 215 acres. The geodetic coordinates of the Site are 32°31.0' north latitude and 93°42.7' west longitude.

Population: Bossier City (population 52,721 in 1990); 3500 people currently live onsite, including about 370 children (U.S. Census Bureau, 1998).

Setting: The former refinery was operational from 1923 until sometime between 1944 and 1948. In 1950, dismantling of several groups of tanks in the refinery process area had begun. By 1955, a significant portion of the refinery process area had been dismantled and most tanks were leased to third parties. From 1955-1967, various refinery operations were sold and removed. Beginning in 1968 and continuing to the present, the Site has undergone development.

Currently, private residences, commercial buildings, and light industrial establishments cover a large portion of the Site. Approximately 52% of the area within the Site is covered by pavement or buildings. Additionally, approximately 10% of the Site has limited accessibility for future development (i.e., the I-20 right-of-way).

PRESENT STATUS AND ISSUES

- The EPA, Department of Justice (DOJ), and Louisiana Department of Environmental Quality (LDEQ) are completing the legal settlements with the Potentially Responsible Parties (PRPs) for the Remedial Design/Remedial Action (RD/RA) at this Site.

WASTES AND VOLUMES

- Concentrations of lead as high as 11,700 parts per million (ppm) were identified in some surface soils accessible to the public, prior to the surface soil removal action which was initiated in September 1996. During this action, lead concentrations were documented as high as 41,600 ppm in shallow soils. Reference Samples collected at the two foot depth contained even higher lead concentrations (high detection of 155,000 ppm).

- Light non-aqueous phase liquids (LNAPLs) floating on top of the shallow groundwater have been estimated from 509,000 to 1,234,000 gallons directly over the former refinery process area of the Site. Other smaller plumes have not been well delineated to date.

- Hydrocarbon gases were detected in soils comprising over 25% of the former refinery site.

- Tar-like material containing polycyclic aromatic hydrocarbons oozes to the surface in some residential and commercial areas.

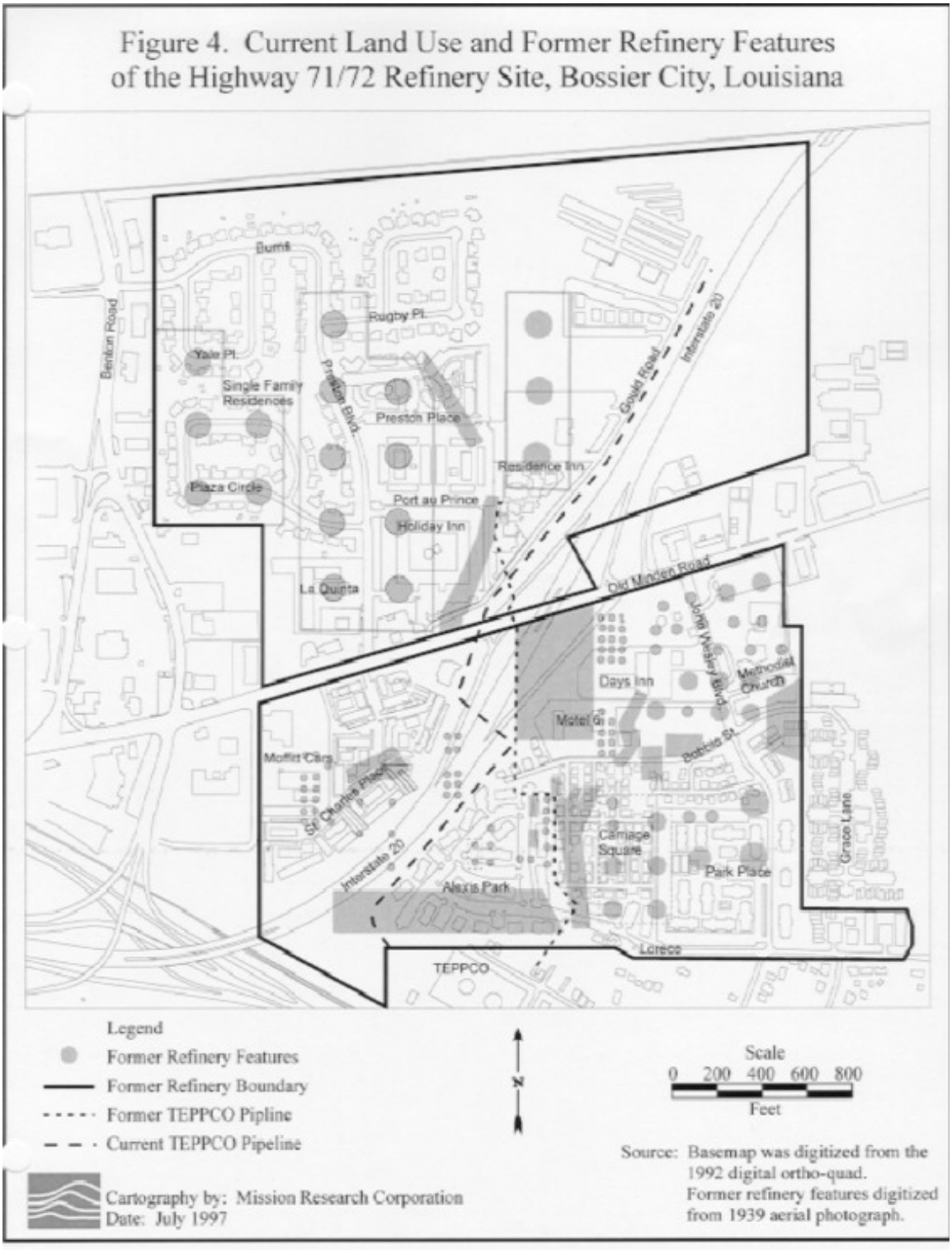
- Benzene concentrations in indoor air of some units onsite have been measured instantaneously as high as 252 parts per billion by volume (ppbv) by the Trace Atmospheric Gas Analyzer (TAGA). However, instantaneous readings were merely taken in order to identify possible sources of benzene in indoor air. When household sources could not be identified at the time of the TAGA sampling, 8-hour time weighted samples were collected with summa canisters and tenax tubes to assess possible site related sources of benzene. Time weighted measurements by summa canisters (4 hour samples) and carbon tubes (12 hour samples) have indicated levels of benzene as high as 97 ppbv and 150 ppbv, respectively.

NATIONAL PRIORITIES LIST

<INSERT NATIONAL PRIORITIES LIST INFORMATION>

NPL Inclusion Proposal Date:	February 13, 1995
NPL Inclusion Final Date:	n/a
NPL Deletion Proposal Date:	n/a
NPL Deletion Final Date:	n/a

<Figure 4 from ROD>



SITE HISTORY

- 1923 to mid 1960's: The Highway 71/72 Refinery Site operated as a refinery from 1923 to some time between 1944 and 1948 producing home heating oil and fuel oils. From 1947 through the mid-1960's, the area served as a petroleum storage and distribution facility. During its years of operation, the refinery expanded from 143 acres in 1939 to a maximum of 215 acres in 1955. The area within and surrounding the Site was also once a significant producing oil field and today several abandoned and producing wells exist in the area.

- The Louisiana Oil Refining Corporation (LORECO) built the former refinery after acquiring the Site from the Invincible Oil Corporation in 1923. The Arkansas fuel Oil Company acquired the refinery around 1936, and operated it until approximately 1953. At the time, the refinery was located north of the Kansas City Southern and south of the Illinois Central Gulf rail lines in Bossier City, Louisiana. In 1953, Arkansas Fuel Oil Company merged into Arkansas Natural Gas Corporation, and the name was changed to Arkansas Fuel Oil Corporation (AFOC). Effective January 1, 1961, AFOC's name was changed to Cities Service Oil Company (CSC). In 1982, CanadianOXY Offshore Production Company acquired CSC.

- 1986: Site was evaluated using the Hazard Ranking System (HRS) model, but scored below the score necessary to be an NPL candidate (28.5). Consequently, in 1988, EPA referred the site to the Louisiana Department of Environmental Quality (LDEQ) for action under State authority.

- 1990: Forty-seven families were evacuated from an onsite apartment complex due to indoor air quality problems related to hydrocarbon gas seepage. Two hotels also periodically closed several first floor rooms due to customer complaints of noxious odors and headaches.

- 1991 to 1994: Site was investigated by OXY USA, Inc. (OXY) under an administrative agreement with LDEQ. The investigation included surface and subsurface soils, soil gas, indoor air, surface water, groundwater and hydrocarbon liquid samples.

- 1992: EPA conducted an Expanded Site Inspection to reevaluate the site using the revised HRS model.

- 1994: OXY and LDEQ announced that studies showed no emergency health risks onsite, but potential for long term health risks was recognized. LDEQ asked EPA to complete a site evaluation under Federal authorities and resources.

- Feb. 13, 1995: EPA proposed addition of the Highway 71/72 Refinery Site to the National Priorities List (NPL).

- Jun. 5, 1995: Special Notice Letters (SNLs) were sent to OXY requesting a good faith offer to remove lead contaminated soils and complete hydrocarbon contamination studies.

- Many concerns from Congressional Representatives, Bossier City, and OXY were sent in regarding EPA actions adversely affecting the Bossier City economy and for requiring unnecessary additional tests.

- Jul. 21, 1995: In a meeting facilitated by Congressman McCrery's staff, EPA met with OXY, LDEQ, and Bossier City officials to discuss concerns of all parties. As a result of this meeting, EPA proposed an 'Agreement in Principle' among participants.

- By Sep. 10, 1995: All four parties (EPA, LDEQ, OXY, and Bossier City) signed the Agreement In Principle. The Agreement In Principal provided for the parties to work towards the following:

  ✯ an Administrative Order on Consent (AOC) for OXY to remove surface soils with more than 500 parts per million (ppm) lead.

  ✯ a judicial Consent Decree (CD) that provides for pumping, treatment, and monitoring of light non-aqueous phase liquids (LNAPLs) floating on top of the groundwater; corrective action at living units with indoor air pollution caused by the site; and a trust fund to pay for disposal of wastes uncovered in the future.

  ✯deed restrictions for groundwater use at the Site for human consumption and/or irrigation purposes.

- Oct. 6, 1995: EPA transmitted to OXY USA Inc. a draft AOC for OXY to conduct a removal action for lead contaminated surface soils at the Site. Negotiations with OXY on the draft AOC resulted in extended discussions and eventually failed to progress.

- Jun. 4-28, 1996: EPA conducted an indoor air screening and sampling inspection at approximately thirty onsite single family residences, four multi-family apartment complexes, three hotels, and one office building for indoor airborne contaminants (92 individual units in all).

- Jul. 31, 1996: EPA issued a Unilateral Administrative Order (UAO) requiring CanadianOxy Offshore Production Co. (COPCO), OXY's indemnitor, to remove lead-contaminated surface soils (top 2 feet) where concentrations of lead exceeded 500 parts per million (ppm) in high access areas (e.g., public areas where children played). The UAO targeted removal of three “Confirmed Removal Areas” and further specified requirements for additional investigative sampling in seven “Potential Removal Areas.” On August 16, 1996, EPA issued an amendment to the UAO requiring sampling for six additional Potential Removal Areas.

- Dec. 22, 1996, EPA issued a UAO to COPCO for mitigating benzene-contaminated indoor air in certain occupied units where benzene concentrations exceeded 10 parts per billion by volume (ppbv). The UAO also required testing in other units to determine if corrective measures were needed.

- Oct. 8, 1996 to Dec 1998: Approximately 11,000 tons of lead-contaminated soils were removed from Oct. 8, 1996 to Feb 19, 1997. Results from the verification sampling were

used to expand boundaries and remove an additional 1,560 tons of lead- contaminated soil from June 1998 to Dec. 1998.

.

- Jan. 21, 1997 to May 28, 1997: Glenn Springs Holdings, Inc. (GSHI), COPCO's representative, began indoor air mitigation activities. A total of 8 units have completed corrective measures (sealing cracks in foundations and installing/modifying air ventilation systems).

- In early 1997, GSHI initiated a voluntary Design Demonstration Project to evaluate LNAPLs recovery onsite.

- Sep. to Dec. 1998: Sampling of indoor air show 2 out of the 8 units to have undergone indoor air clean up exceed action levels set for the indoor air removal action. Additional slab ventilation work was completed and subsequent sampling show no exceedances above the 10 ppbv benzene action level.

- Feb. 1999: EPA Remedial Investigation (RI) completed.

- Sep. 1999: EPA Feasibility Study (FS), EPA's evaluation of cleanup alternatives, was completed.

- Feb. 2000: Sampling was done by EPA at a limited number of residential properties (sampling of soil, indoor tap water, and indoor dust). Results of the sampling show that no average soil lead concentration of residential yards exceeded 510 ppm. Tap water samples also show compliance within all EPA standards.

- May 12, 2000: EPA Proposed Plan of Action issued. A public comment period was held from May 12, 2000, to June 12, 2000.

- Sep. 28, 2000: EPA Record of Decision (ROD) for the Site was issued.

- Sep. 21, 2001: EPA sends out SNLs to Potentially Responsible Parties for Site RD/RA.

ENFORCEMENT HISTORY

- Unilateral Administrative Order Docket No. CERCLA 6-08-96: Soil Removal Action to address lead in surface soils. Issued to CanadianOxy offshore, Production Company on 07/31/96 with an Effective Date of 08/20/96. Amended on 08/16/96 with new effective date of 08/26/96.

- Unilateral Administrative Order Docket No. CERCLA 6-03-97: Indoor Air Removal Action to address benzene in indoor air of occupied units onsite. Issued to CanadianOxy offshore, Production Company on 012/20/96 with an Effective Date of 01/06/97. Amended on 02/13/97 with no change to the Effective Date (01/06/97).

HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

- All known surficial areas where exposure to lead in surface soils could potentially present health threats to children have been addressed under the Soil Removal Action from 1996-1998.

- The Indoor Air Removal Action conducted in 1997 and 1998 addressed the imminent and substantial threats identified in 8 occupied dwellings to date. However, the potential for contamination of other units do exist due to possible migration of contaminants into indoor air from underlying source areas.

- LNAPLs in groundwater and areas of high soil gas concentrations (possibly generated from dissolved groundwater plumes and/or leading edge of LNAPLs plume) may be the underlying source areas of potential indoor air contamination.

- Buried wastes and contaminated soils may present a health threat if exposed, left on the surface and/or improperly disposed of in the future.

- Ecological risks are indeterminate at this time due to the urban nature of the site.

RECORD OF DECISION

Signed: September 28, 2000

The major components of the Selected Remedy (Implementation of Common Elements plus Enhanced Light Non-Aqueous Phase Liquid (LNAPL) Recovery By Dual Phase Extraction (Plumes A, B, C, and D)) consist of:

- Sampling for lead in surface soil and sampling for hydrocarbons in surface and subsurface soils at the request of on-site community members;

- Cleanup of lead-contaminated surface soil discovered during requested sampling or uncovered during earthmoving activities;

- Cleanup of hydrocarbon-contaminated surface and subsurface soil discovered during requested sampling or uncovered during earthmoving activities;

- Sampling for benzene in indoor air at the request of on-site community members;

- Mitigation of indoor air contamination discovered through requested sampling;

- Implementation of ground water use restrictions;

- Periodic notification of the on-site community of potential contamination, of available services, and of ground water use restrictions;
- Environmental monitoring of LNAPL, ground water, and indoor air; and

- Enhanced LNAPL recovery by dual phase extraction (Plumes A, B, C, and D), including LNAPL recycling/reuse or disposal and treatment or disposal of co-extracted ground water and vapors.

COMMUNITY INVOLVEMENT

- Community Involvement Plan: 12/95
- Open houses and workshops: 2/95, 6/95, 8/95, 1/97, 7/97, 9/97, 12/99, 5/00
- Limited Sampling Fact Sheet: February 2000
- Community Meeting Remedial Investigation/Feasibility Study: May 11, 2000
- Proposed Plan Fact Sheet: May 12, 2000.
- Proposed Plan Public Meeting: June 6, 2000.
- ROD Public Notice Shreveport Times November 17, 2000
- ROD Fact Sheet: Not Yet Issued.
- Milestone Fact Sheets: 2/15/95, 01/07/97
- Citizens on site mailing list: 1800
- Site Repository: Bossier Parish Library, 2206 Beckett, Bossier City, LA

TECHNICAL ASSISTANCE GRANT

- Availability Notice: 3/95, 6/6/00, 11/00
- Letters of Intent (LOI):
  1) 1/26/98 - Alliance League of Environmental Restoration Task Force (ALERTF) sent in A TAG application in lieu of a LOI. - determined not eligible
  2) 9/10/98 - ALERTF - determined not eligible
- LOI News paper Notice: 3/9/98
- Final Application Received: Application from the Alliance League of Environmental Restoration Task Force was denied by EPA.
- Grant Award: N/A
- Current Status: N/A

SITE CONTACTS

United States Environmental Protection Agency

Remedial Project Manager:	Laura Stankosky	214-665-7525
Community Involvement (EPA):	Janetta Coats	214-665-7308
Site Attorney:	James Costello	214.665-8045
Regional Public Liaison:	Arnold Ondarza	1-800-533-3508
Superfund Region 6 Toll Free Number:		**1-800-533-3508**

Louisiana Department of Environmental Quality

State Contact:	Charles Andrews	225-219-3219

- The Soil Removal Action reduced the potential threat to children living and/or playing on the Site who could have contacted high levels of lead in surface soils.

- The Indoor Air Removal Action reduced the potential threat to occupants of 8 onsite units who were being exposed to benzene concentrations in indoor air above the action level of 10 ppbv.

- The Pilot Demonstration Project for LNAPLs Recovery, being conducted voluntarily by GSHI, will help all parties determine the feasibility and/or effectiveness of various long term response actions being evaluated at the Site.